

REMARKS

Claims 1-8 are pending in this application. Claims 4 and 5 stand withdrawn. By this Amendment, the Specification and claims 1-3 is amended and claims 6-8 are added. The amendments to claims 2 and 3 are in format only and have no bearing unpatentability.

I. Information Disclosure Statement

An Information Disclosure Statement with Form PTO-1449 was filed with the application on October 29, 2004. Applicants have not yet received back from the Examiner a copy of the Form PTO-1449 initialed to acknowledge the fact that the Examiner has considered the cited information. The Examiner is requested to initial and return to the undersigned a copy of the subject Form PTO-1449. For the convenience of the Examiner, a copy of that form is attached.

II. Specification

Although not objected to, Applicants amend the specification to correct typographical errors.

The Abstract is replaced with the substitute Abstract to better reflect the subject matter recited in the pending claims.

III. Allowable Subject Matter

Applicants appreciate the indication of allowable subject matter in claims 2 and 3, they being allowable if rewritten in independent form to include all of the features of their base claim and any intervening claims. Applicants submit that claims 2 and 3, as well as all of the pending claims, are allowable for the reasons discussed below.

IV. Claim Rejections Under 35 U.S.C. §103

Claim 1 is rejected under 35 U.S.C. §103(a) as unpatentable over JP 3118837 (JP 837) in view of JP 310470 (JP 470). The rejection is respectfully traversed.

Applicants assert that neither JP 837 nor JP 470, whether considered alone or in combination, disclose or suggest each and every feature recited in the rejected claim, as amended. For example, the combination of references fails to disclose or suggest a stator coil, comprising *inter alia* ... a head portion comprising a U-shaped head tip portion and a pair of head oblique portions each of which is stretched obliquely along the circumferential and axial directions of the stator core, and a pair of projected end portions having a pair of end oblique portions each of which stretches obliquely along the circumferential and axial directions of the stator core and a pair of end tip portions each of which is formed at a tip of the corresponding end oblique portion and is joined with an end tip of the other end tip portion, wherein each of the head oblique portions or each of the end oblique portions is made circular-arch-shaped around an axis of the stator core.

The Office Action admits that JP '837 fails to disclose that the head oblique portions and the end oblique portions are made circular-arch-shaped around an axis of the stator core. In addition to the admitted deficiency, Applicants submit that JP '837 also fails to disclose or suggest a pair of head oblique portions each of which is stretched obliquely along the circumferential and axial directions of the stator core.

In an effort to overcome the admitted deficiency, the Office Action combines JP '470, which is alleged to disclose a projected end portion welded with another projected end portion adjacent along the radial direction and further a binding member held between the two projected end portions adjacent with each other in the circumferential direction in order to stabilize their positions to form oblique head portions and oblique end portions made circular-arch-shaped around an axis of the stator core. Applicants submit that the Office Action fails to disclose where JP '470 discloses such features.

JP '470 relates to a method of welding a stator winding at high speed while preventing the deterioration of an insulating coating on the guide members. To execute such welding,

JP '470 discloses a torch 2, arresting gear 7 used to hold a stator 14 in place, and a plurality of electrodes. Electrodes 10 and 11 are disposed on the circumferential outer and inner side of the projecting end of the coil members and a protection member electrode 12 is temporarily inserted between the parallel pairs of the coil ends (see Fig. 2 of JP '470). On welding the adjacent pairs of coil ends at the welding zone 13, the protection member electrode 12 is removed, as are inner and outer electrodes 10 and 11. Thus, JP '470 does not disclose each of the head oblique portions or each of the end oblique portions made circular-arched-shaped around an axis of the stator coil. Rather, JP '470 merely discloses a method of welding the welding tips of the coil members.

JP '470 discloses a group of inclined portions 16 that straightly extend in a circumferential direction of the stator core 15 (Fig. 5). Thus, the inclined portions 16 are not made circular-arch-shaped around the axis of the stator core 15. Therefore, the inclined portions 16, especially those at the inner most radial side, extend beyond the inner circumferential surface of the stator core 15, thereby making it difficult to insert a rotor into the inside of the stator core and interfering with a cooling fan that would be provided on the end surface of the rotor to cool the stator core. Accordingly, Applicants respectfully request the rejection of claim 1 be withdrawn.

The Office Action also rejects claim 1 under 35 U.S.C. §103(a) as unpatentable over JP '837 in view of U.S. Patent No. 6,525,443 to Asao. The rejection is respectfully traversed.

The Office Action alleges that Asao teaches head oblique portions and end oblique portions made circular-arch-shaped around an axis of the stator core and further alleges that it would have been obvious to one of skill in the art at the time the invention was made to modify JP '837 in view of Asao. The Office Action fails to identify where Asao discloses its features.

Asao discloses a dynamo-electric machine, such as a generator, wherein a coil end height of a stator may be reduced (col. 1, lines 7-10). In Asao, each wire strand 30 is formed by bending it into a planar pattern in which the straight portions 30 to be connected by turn portions 30a are lined up at a pitch of 6 slots (col. 8, lines 19-22); Fig. 12. Additionally, as shown in Figs. 2 and 3, the wire strand 30 which is composed of the straight portions 30b and the turn portions 30a is formed in a circular shape around an axis of the stator core 15. However, as each of the straight portions 30b straightly extends in a direction between the circumferential and radial directions of the stator core, Asao does not disclose or suggest a head portion having a pair of head oblique portions each of which is stretched obliquely along the circumferential and axial directions of the stator core, and a pair of projected end portions having a pair of end oblique portions each of which stretches obliquely along the circumferential and axial directions of the stator core wherein each of the head oblique portions or each of the end oblique portions is made circular-arch-shaped around an axis of the stator core. Accordingly, Applicants respectfully request the rejection of claim 1 under 35 U.S.C. §103(a) be withdrawn.

V. New Claims

Applicants submit that new claims 6-8 are allowable over the applied references. Additionally, neither of the applied references, whether considered alone or in combination, disclose or suggest a stator coil, comprising: a plurality of segments received in a plurality of slots of a stator core and serially connected with each other to construct a phase coil in M (integer greater than or equal to 3) phase coils, the slots being arranged along a circumferential direction of the stator core, each slot penetrating through the stator coil in an axial direction of the stator coil between inner circumferential surface and an outer circumferential surface of the stator core, and each slot having an even number of receiving positions disposed along a radial direction of the stator core; each of the segments comprising: a pair of slot conductor portions

which are, respectively, received in two receiving positions of a pair of slots distant by a predetermined pitch in the circumference direction of the stator core; a head portion which is projected toward an end of the stator core in the radial direction of the stator core; and a pair of projected end portions each of which is projected from another end of the stator core; the head portion comprising: a U-shaped head tip portion; and a pair of head oblique portions each of which is stretched obliquely along the circumferential and axial directions of the stator core; the pair of projected end portions comprising: a pair of end oblique portions each of which stretches obliquely along the circumferential and axial directions of the stator core; and a pair of end tip portions each of which is formed at a tip of the corresponding end oblique portion and is joined with an end tip of the other end tip portion, wherein each of the head oblique portions or each of the end oblique portions is bent in the radial direction of the stator core in a bow shape not to go beyond the inner circumferential surface of the stator core.

VI. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-8 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment:

Courtesy Copy of Form PTO-1449

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